

# **NE Novelty Hill Road Project**

**CIP 100992**

## **SEPA ENVIRONMENTAL CHECKLIST**

King County, Washington

**Prepared by**

**King County  
Department of Transportation  
Road Services Division, Engineering Services Section  
201 South Jackson Street, KSC-TR-0231  
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**April 24, 2009**

**NE Novelty Hill Road Project  
King County, Washington (CIP 100992)**

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**Figure 1 - Project Vicinity Map**

**Figure 2 - Typical Road Cross Sections**

## **WAC 197-11-960      Environmental Checklist**

### *Purpose of Checklist:*

The State Environmental Policy Act (SEPA), chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help the agency, citizens, and other reviewers identify impacts from the proposal, to possibly reduce or avoid impacts from the proposal, and to help the agency decide whether an EIS is required.

## **ENVIRONMENTAL CHECKLIST**

### **A. BACKGROUND**

- 1. Name of Proposed Project:**                      NE Novelty Hill Road Project
- 2. Name of Applicant:**                              King County Department of Transportation  
Road Services Division

**3. Address and phone number of applicant and contact person:**

King County Department of Transportation  
Road Services Division  
King Street Center Mail Stop: KSC-TR-0231  
201 South Jackson Street  
Seattle, WA 98104-3856  
Mike O'Neil, Project Manager, 206-296-3538  
Tina Morehead, Senior Environmental Engineer, 206-296-3733

Contact the Project Manager for questions related to project scope and engineering design.  
Contact the Senior Environmental Engineer for questions related to content of the SEPA environmental checklist and environmental issues.

- 4. Date Checklist Prepared:**      April 24, 2009
- 5. Agency requesting checklist:**      King County

**6. Proposed timing or schedule (including phasing, if applicable):**

The proposed project would be constructed in two phases, on different segments of the project corridor. Phase 1 is planned for late 2009 through November 2011, and involves improvements to 195th/196th Avenue NE and NE Union Hill Road. In addition, Phase 1 includes two roundabouts, one at the new intersection of 195<sup>th</sup> Avenue NE with NE Novelty Hill Road and one at the intersection of 196th Avenue NE with NE Union Hill Road. Phase 1 also includes the replacement of the bridge over Evans Creek and the majority of the mitigation construction. Phase 2, which may begin several years after completion of Phase 1,

involves improvements to NE Novelty Hill Road and the construction of a roundabout at the intersection of 208<sup>th</sup> Avenue NE and NE Novelty Hill Road. Phase 2 would be programmed after a review of other King County transportation needs at that time.

**7. Plans for future additions, expansion or further activity related to or connected with this proposal:**

Outside the proposed project phasing there are no plans for future additions or expansions.

**8. List any environmental information you know about that was prepared, or will be prepared, directly related to this proposal.**

- a. *NE Novelty Hill Road Transportation Discipline Report*, King County Department of Transportation, 2007.
- b. *NE Novelty Hill Road Air Quality Discipline Report*, King County Department of Transportation, 2006.
- c. *NE Novelty Hill Road Addendum to the Air Quality Discipline Report*, King County Department of Transportation, 2008.
- d. *NE Novelty Hill Road Cultural Resources Discipline Report*, King County Department of Transportation, 2006.
- e. *NE Novelty Hill Road Hazardous Materials Discipline Report*, King County Department of Transportation, 2008.
- f. *NE Novelty Hill Road Addendum to the Hazardous Materials Discipline Report*, King County Department of Transportation, 2006.
- g. *NE Novelty Hill Road Land Use Discipline Report*, King County Department of Transportation, 2007.
- h. *NE Novelty Hill Road Noise Discipline Report*, King County Department of Transportation, 2006.
- i. *NE Novelty Hill Road Socioeconomic Discipline Report*, King County Department of Transportation, 2008.
- j. *NE Novelty Hill Road Soils and Geology Discipline Report*, King County Department of Transportation, 2006.
- k. *NE Novelty Hill Road Visual Quality Discipline Report*, King County Department of Transportation, 2007.
- l. *NE Novelty Hill Road Wildlife, Fisheries, and Vegetation Discipline Report*, King County Department of Transportation, 2008.
- m. *NE Novelty Hill Road Wetlands Discipline Report*, King County Department of Transportation, 2007.
- n. *NE Novelty Hill Road Water Resources Discipline Report*, King County Department of Transportation, 2007.
- o. *NE Novelty Hill Road Community Health Assessment*, King County Department of Transportation, 2008.
- p. *NE Novelty Hill Road Conceptual Natural Resource Mitigation Plan*, King County Department of Transportation, 2008.
- q. *NE Novelty Hill Road Final Route Feasibility Study*, King County Department of Transportation, 2008.

- r. *NE Novelty Hill Road Endangered Species Act Compliance Documentation* (Biological Assessment; NOAA Concurrence Letter, April 2008).
- s. *NE Novelty Hill Road Public Lands Report*, King County Department of Transportation, 2007.

The discipline reports listed above analyzed three alternatives. Alternative 2 was subsequently selected as the preferred alternative for this project. Throughout the remainder of this document reference is made to various discipline reports and the discussion under “Alternative 2” which pertains directly to this project. Copies of these discipline reports are available on the project web site at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and hard copies are available upon request.

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

None

**10. List of governmental approvals or permits that will be needed for the proposal:**

<b>Agency</b>	<b>Permit/Approval</b>
U.S. Army Corps of Engineers	Section 404, Clean Water Act Individual Permit
U.S. Fish and Wildlife Service and NOAA Fisheries	Section 7, Endangered Species Act compliance documentation
Advisory Council on Historic Preservation/Washington State Department of Archaeology and Historic Preservation	Section 106, National Historic Preservation Act compliance documentation
Washington Department of Ecology	Section 401 Individual Water Quality Certification
Washington Department of Ecology	Coastal Zone Management Act Consistency Determination
Washington Department of Ecology	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit
Washington Department of Ecology	Notification of Hazardous Waste Disposal
Washington State Department of Fish and Wildlife	Hydraulic Project Approval (HPA)
King County DDES	Critical Areas Alteration Exception
King County DDES	Clearing and Grading Permit
King County DDES	Shoreline Substantial Development Permit
King County DDES	Flood Hazard Certification
King County DDES	Class IV General – Forest Practices Permit
City of Redmond	Clearing and Grading Permit
City of Redmond	Shoreline Substantial Development Permit

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

**Background:** The Road Services Division of the King County Department of Transportation (RSD), with funding from the Federal Highway Administration (FHWA), proposes to make roadway improvements in the area of NE Novelty Hill Road in King County, Washington. The project includes improvements to existing roadways and one new segment of roadway. The project area covers approximately 64 acres.

Beginning in 1995, the environmental review for this project was initially an environmental impact statement under both the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). During the project development, various alternatives were reviewed and 12 discipline reports on the elements of the environment were prepared to analyze the project's potential impacts. Each of these reports concluded that the project would not result in significant unavoidable adverse impacts to the environment. Using the analysis and conclusions contained in the discipline reports, in 2007, FHWA, as lead agency under NEPA, reclassified the environmental review to an environmental assessment.

**Roadway Improvements:** The proposed project corridor consists of three segments of roadway, referred to as the Union Hill Road (UHR) segment, the 195<sup>th</sup>/196<sup>th</sup> segment, and the Novelty Hill Road (NHR) segment. Figure 1 (*Project Vicinity Map*) shows the proposed lane configurations for each of the three roadway segments. Figure 2 (*Typical Road Cross-Sections*) shows the cross-sections for each of the three roadway segments. The following description of these three segments moves generally from the western end of the project to the eastern end:

1. The **UHR segment** consists of roadway improvements to the existing two-lane road on NE Union Hill Road by widening to four lanes from 192<sup>nd</sup> Avenue NE east to 196<sup>th</sup> Avenue NE with five-foot sidewalks and five-foot bike lanes on both sides of the road. This segment also includes replacement of the Evans Creek Bridge to accommodate the widened roadway.
2. The **195<sup>th</sup>/196<sup>th</sup> segment** consists of roadway improvements to 196<sup>th</sup>/195<sup>th</sup> Avenue NE from NE Union Hill Road north to NE Novelty Hill Road. Beginning at the intersection of 196<sup>th</sup> Avenue NE and NE Union Hill Road, a two-lane roundabout will be constructed. 196<sup>th</sup> Avenue NE will be two lanes with 8-foot shoulders from NE Union Hill Road to where 196<sup>th</sup> Avenue NE transitions to NE 195<sup>th</sup> (at Perrigo Community Park). Starting at Perrigo Community Park, 195<sup>th</sup> Avenue NE and continuing to NE Novelty Hill Road, the road will be three lanes with 8-foot shoulders. The portion of this segment north of NE 95<sup>th</sup> Street to NE Novelty Hill Road will be 800 feet of new roadway. At the new intersection of 195<sup>th</sup> Avenue NE and NE Novelty Hill Road, a two-lane roundabout will be constructed.
3. The **NHR segment** consists of roadway improvements to NE Novelty Hill Road from approximately 1,000 feet west of the new intersection of 195<sup>th</sup> Avenue NE, to 234<sup>th</sup> Place NE with paved shoulders throughout the entire roadway.

- From 195th Avenue NE to 208th Avenue NE, the roadway would consist of four lanes. To control access, a landscaped median will be provided with a “U” turn facility located approximately halfway between these two intersections.
- From 208th Avenue NE to 224<sup>th</sup> Avenue NE there will be five lanes. A two-lane roundabout would replace the existing signalized intersection of NE Novelty Hill Road and 208th Avenue NE. A portion of 208th Avenue NE, south of the intersection of the two roadways, would be modified as well. Improvements to 208th Avenue NE would include a two-lane approach with 8-foot paved shoulders; the width of the approach would taper to the existing two-lane roadway over a distance of approximately 1,000 feet.
- From 224th Avenue NE to 234th Place NE will be 4 lanes.

Throughout this segment, both sides of the roadway will have pedestrian and cyclist facilities through a combination of shoulders, separated trails, bike lanes, and sidewalks. Minimum widths of any of these facilities will be five feet. Wherever there is a sidewalk, there will also be a bike lane. Upgrading these non-motorized transportation facilities would improve pedestrian and bicycle safety along the corridor and could result in increased pedestrian and bicycle use.

**Stormwater Treatment Facilities:** Two new stormwater treatment facilities will be constructed by King County to maintain water quality and control stormwater runoff in support of this project (196th–Evans facility and Novelty–Bear facility), and one existing stormwater treatment facility (Novelty–Colin facility) will be retrofitted. Figure 1 shows the locations of these facilities.

**Natural Resources Mitigation:** Natural resources mitigation will be constructed on the following four sites to compensate for unavoidable impacts to streams, wetlands, and wildlife habitat:

1. Stensland Creek mitigation site (upper, middle, and lower reaches)
2. Bear-Evans Valley South mitigation site
3. Evans Creek Bridge Crossing mitigation site
4. Union Hill Terrace mitigation site

Figure 1 shows the locations of streams, floodplain, wetlands, and the mitigation sites.

**12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The project corridor is located in northeastern King County and extends from the eastern boundary of the City of Redmond, eastward into the King County urban-growth area that includes three urban planned developments: Redmond Ridge, Trilogy, and Redmond Ridge East. The project is located in Township 25N, Range 06E, Sections 03, 04, 05, 06, 07, 08, and 09; and Township 26N, Range 06E, Sections 26, 27, 28, 31, 32, 33, 34 and 35. See Figure 1.

## B. ENVIRONMENTAL ELEMENTS

**Additional Project Information:** The discipline reports, listed above under Section A8, analyzed three alternatives. Alternative 2 was subsequently selected as the preferred alternative for this project. Throughout the remainder of this document reference is made to various discipline reports and the discussion under “Alternative 2” which pertains directly to this project. Copies of these discipline reports are available on the project web site at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and hard copies are available upon request.

### 1. EARTH

**a. General description of the site (underline one):**

Flat, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

The four-mile corridor traverses a variety of terrains.

**b. What is the steepest slope on the site (approximate percent slope)?**

The project corridor generally traverses west to east from the lowlands of the Bear Creek Evans Creek Valley, along NE Novelty Hill Road, to the project end at 234<sup>th</sup> Place NE in the uplands of the Bear Creek Plateau. The road section within the project corridor is approximately four miles long and has an elevation ranging from 69 feet near the Evans Creek crossing at NE Union Hill Road to 593 feet near the intersection of NE Novelty Hill Road with Redmond Ridge Drive NE. The steepest roadway grade within the project area varies from approximately 4 percent to 9 percent. For further information see the discussion on Alternative 2 in the *Geology and Soils Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

The US Department of Agriculture Soil Conservation Service (SCS) has mapped soil types for the project area in its 1973 *Soil Survey of the King County Area, Washington* by Snyder et al., (1973). The Natural Resource Conservation Service (formerly the SCS), has identified six soil series within the project area. Of the six identified, the two most prevalent soil series are the Everett and Alderwood Series. The Everett Series is derived from the stratified sand and gravel deposits found in the Bear Creek and Evans Creek Valleys. The Alderwood Series is derived from the glacial till deposits that predominate in the uplands of the Bear Creek Plateau. Soils in the project area are not classified as having agricultural significance, but historic land use adjacent to parts of the project roadway included agriculture. For further information see the discussion on Alternative 2 in the *Geology and Soils Discipline Report*. To access this report electronically, please



go to the project website located at  
<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>  
 and click on the "Documents" link in the box on the upper-right-hand side of the page.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

Geologic features noted during site visits included soil and sediment surface exposures, existing large cut-and-fill sections, locations of existing significant structures, areas with potentially unstable slopes, and evidence of poor subsurface conditions. Poor subsurface conditions could include areas of unconsolidated fill, soft organic sediments in wetlands that could settle under load, and very hard glacial tills that may be difficult to excavate. Observations during the site visits were combined with information collected from existing publications to provide a complete evaluation of soils and geology in the project corridor. For further information see the discussion on Alternative 2 in the *Geology and Soils Discipline Report*. To access this report electronically, please go to the project website located at  
<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>  
 and click on the "Documents" link in the box on the upper-right-hand side of the page.

- e. Describe the purpose, type and approximate quantities of any filling or grading proposed. Indicate source of fill.**

Excavated material will consist of gravels and native soil, including hydric wetland soils. Material that cannot be reused elsewhere in the project area will be hauled offsite and appropriately disposed of by the contractor. Suitable gravel borrow from a local supplier will be used for any fill and will be provided by the contractor. The aggregate for gravel borrow shall consist of granular material, either naturally occurring or processed. Topsoil and compost may be used in the mitigation areas and will also be provided by the contractor. The table below shows the approximate clearing and grading quantities in total as well as by project phase.

**NE Novelty Hill Road Project Clearing and Grading Quantities by Phase**

	<b>Phase 1</b>	<b>Phase 2</b>	<b>Project Total</b>
<b>Total Project Area (acres)</b>	<b>44</b>	<b>20</b>	<b>64</b>
<b>Total Area Cleared/Graded (acres)</b>	<b>42</b>	<b>13</b>	<b>55</b>
<b>Volume of Excavation (cubic yards)</b>	<b>59,000</b>	<b>79,000</b>	<b>138,000</b>
<b>Volume of Fill (imported) (cubic yards)</b>	<b>163,000</b>	<b>121,000</b>	<b>284,000</b>
<b>Volume of Fill (exported) (cubic yards)</b>	<b>16,000</b>	<b>0</b>	<b>16,000</b>

- f. Could erosion occur as a result of clearing, construction or use? If so, generally describe.**

Yes, erosion could occur as a result of vegetation removal and ground disturbance during construction.

**g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

There are approximately 22.2 acres of existing impervious surface within the entire 64-acre project footprint, or about 34 percent. This project will add 11.6 acres of impervious surface, for a total of 33.8 acres, an overall increase of approximately 19 percent. Impervious surfaces after project construction will cover approximately 53 percent of the project footprint.

**h. Proposed measures to reduce or control erosion or other impacts to the earth, if any.**

**Construction:** During construction erosion control BMPs required in the King County *Surface Water Design Manual (2009)* and the Washington State Department of Ecology, *Western Washington Stormwater Management Manual (2005)*, will be employed. The BMPs include the use of mulch, silt barriers, containment systems, interim stormwater controls, cover measures (straw or plastic), stream bypasses, and the reseeded of areas temporarily disturbed by construction. Additionally, existing vegetation will be preserved to the extent practicable.

**Operation:** Planting and seeding will be provided at project closure to ensure all bare-earth areas are revegetated and limit the potential for erosion.

## **2. AIR**

**a. What types of emissions to the air would result from the proposal (i.e. dust, vehicles, greenhouse gas, odors, industrial wood smoke) during construction and when the project is completed? Generally describe and give approximate quantities, if known.**

**All emissions except greenhouse gas:** The project will result in emissions from fugitive dust and odors.

**Construction:** Construction activities would generate fugitive dust and odors that would result in localized air-quality impacts.

**Operation:** The traffic modeling for the project used an opening year of 2012 and a horizon year of 2030. After construction, the improved roadway would draw traffic from alternative routes in the project area, resulting in higher traffic volumes along the project corridor and a corresponding increase in carbon monoxide and particulate emissions at many intersections within the corridor. Future carbon monoxide concentrations at these intersections are not predicted to exceed U.S. Environmental Protection Agency air-quality standards and would comply with the federal Clean Air Act (40 CFR Parts 50-99) and Washington State Clean Air Act (RCW 70.94). Carbon monoxide concentrations

predicted for the year 2030 would be lower than those predicted for 2012 because of increasingly stringent vehicle emission standards for new cars and the gradual replacement of older vehicles with newer, cleaner cars that will continue to decrease vehicular emissions. For additional information see the discussion on Alternative 2 in the *Air Quality Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**Greenhouse Gas:** The project will result in greenhouse gas (GHG) emissions that contribute to global warming and related climate-change concerns. Life-cycle GHG emissions for the project include embodied, operational, and construction emissions.

1. Embodied emissions are the emissions released during the extraction, processing, and transportation of the materials used in construction.
2. Construction emissions are released during project construction and primarily come from fuel burned in the equipment used to build the project, such as bulldozers, pavers, and rollers.
3. Operational emissions are emissions released by vehicles using project roadways.

**Construction:** Construction of the proposed project would involve activities that could temporarily increase emissions of GHG. Potential construction impacts would include GHG emissions from the manufacture of paving materials, exhaust from construction equipment and vehicles, and temporary traffic delays that reduce travel speeds. Carbon dioxide equivalent life-cycle emissions generated by the construction of the NE Novelty Hill Road Project are estimated at 25,250 metric tons of carbon dioxide equivalents (MTCO<sub>2e</sub>).

**Operation:** Operation of the new roadway would result in greenhouse gas emissions primarily from vehicles. The table below compares the long-term vehicle emissions of GHG and Vehicles Miles Traveled (VMTs) that have been estimated with and without the proposed project for the year 2030. The emission estimates are presented in MTCO<sub>2e</sub>.

### Vehicular Emissions for NE Novelty Hill Road Project

	<b>VMTs <sup>a</sup> 2030 Weekday PM Peak Hour</b>	<b>CO<sub>2</sub>e Emissions <sup>b</sup> (MTCO<sub>2</sub>e during peak hour)</b>	<b>Life-Cycle <sup>c</sup> CO<sub>2</sub>e Emissions (MTCO<sub>2</sub>e during peak hour)</b>
2030 with the proposed project	7,308,718	3,431	4,297
2030 without the proposed project	7,311,935	3,432	4,299
Net change due to proposed project	-3,217	-1.51	-1.89

Notes:

<sup>a</sup> Vehicle miles traveled predicted for the region (King, Snohomish, Pierce, and Kitsap counties) with the *King County Travel Demand Model* (King County 2006).

<sup>b</sup> Emissions based on methods and emission factors in *Greenhouse Gas Emissions from a Typical Passenger Vehicle* (U.S. EPA 2005). The U.S. EPA emission factor is 19.4 pounds of CO<sub>2</sub> per gallon of gasoline and does not include life-cycle emissions.

<sup>c</sup> Life-cycle emissions include the extraction, transport, and refinement of petroleum as well as combustion by vehicles. The life-cycle emission factor is assumed to be 24.3 pounds of CO<sub>2</sub> per gallon of gasoline, based on the methods and life-cycle emission factors in the *GHG Emissions Worksheet* (King County 2007).

Based on future VMTs, the proposed project would reduce long-term operational GHG emissions from vehicles operating on roadways regionwide in comparison to a future scenario without the proposed project. Future VMTs would decrease because the proposed project would shift traffic from other roadways onto the NE Novelty Hill Road corridor, which would be designed to accommodate the increase. The proposed project would provide drivers a more direct route to their destination, which would reduce the length of trips. For additional information see *Air Quality Addendum*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**b. Are there any off-site sources of emissions or odors that may affect your proposal? If so, generally describe.**

No off-site sources of emissions or odors have been identified.

**c. Proposed measures to reduce or control emissions or other impacts to the air, if any:**

**Construction:** During construction mitigation measures for project impacts to air quality and GHG emissions could include, but are not limited to, the following:

1. Spraying water, when necessary, during construction operations would reduce emissions of fugitive dust.
2. Covering dirt, gravel, and debris piles as needed would reduce fugitive dust and wind-blown debris.

3. Covering open-bodied trucks in accordance with RCW 46.61.655, wetting materials in trucks or providing adequate freeboard (space from the top of the material to the top of the truck) would reduce fugitive dust emissions.
4. Providing wheel washers at construction sites, as appropriate, to remove mud and dirt from vehicle wheel wells and undercarriages would reduce tracking out of mud and dirt onto area roadways.
5. Sweeping public streets, when necessary, would remove mud and dirt deposited on paved roads.
6. Locating construction staging areas and access roads away from sensitive receptors would reduce short-term impacts. Staging areas and access roads could include paved or gravel surfaces to reduce dust.
7. Using biodiesel or ultra-low-sulfur diesel fuels for vehicles and equipment would reduce diesel exhaust emissions.
8. In cooperation with Puget Sound Clean Air Agency (PSCAA), participate in the Diesel Solutions program (a program to retrofit vehicles with pollution-control equipment and promotes the use of ultra-low sulfur diesel or biodiesel), could further reduce emissions.
9. Conservation and reuse of construction materials on site, to reduce exhaust emissions and traffic delays.
10. Implement a construction traffic management plan to reduce construction-related traffic delays for the traveling public to the extent possible.
11. Utilize BMPs to reduce exhaust emissions from construction equipment and vehicles.
12. Use of energy-efficient lighting during nighttime construction activities.

***Operation:*** Even though operational emissions are slightly less than without the proposed project, elements have been included in the project to reduce the GHG emissions during operation. The proposed project design incorporates transportation demand management (TDM) measures, the goal of which is to reduce the use of single-occupancy vehicles. The TDM measures have been developed in conjunction with transportation partners that include WSDOT, the City of Redmond, Sound Transit, and King County Metro Transit. The TDM measures include improved access to transit and improvements to non-motorized transportation facilities such as trails and cycling.

During operation of the proposed project, mitigation measures to minimize project effects on air quality would not be required, because the predicted future carbon monoxide concentrations meet the National Ambient Air Quality Standards.

### 3. WATER

#### a. Surface:

- 1) **Is there any surface water body on or in the immediate vicinity of the site, including year-round and seasonal streams, saltwater, lakes, ponds, wetlands? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

**Streams:** The project area lies primarily within the Bear and Evans Creek Subbasins of the Lake Washington/Cedar/Sammamish Watershed (Water Resource Inventory Area 8). The Bear Creek basin covers about 14,300 acres in northern King and southern Snohomish counties and drains to the Sammamish River. The major Bear Creek tributaries support Chinook salmon and other anadromous fish species (those that spend portions of their lives in both fresh and salt water) such as coho salmon and steelhead trout. Smaller named and unnamed tributaries in the system support varied populations of salmon and resident fishes, as well as mussels. Ten streams in the Bear Creek basin are located in the project area.

The Evans Creek basin lies to the south of the Bear Creek basin, and covers about 9,800 acres, all in King County. Evans Creek is the largest tributary of Bear Creek and it also supports varied populations of salmon and resident fishes. Four streams in the Evans Creek basin are located in the project area.

Because Bear and Evans Creeks both have mean annual stream flows in excess of 20 cubic feet per second, they are classified as Shorelines of the State under the King County Shoreline Master Program (KCC Title 15). All Shorelines of the State water are also classified as Type S waters under the King County Critical Areas Code (KCC 21A.24.355). Most of the remaining streams in the project area contain fish or fish habitat and are classified as Type F waters by King County; however, three are classified as Type N because they do not contain fish or fish habitat.

The table below shows streams within the project area and their corresponding basin location, King County stream classification and corresponding buffers. For additional information see the discussion on Alternative 2 in the *Water Resources Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

## Summary of Streams in the Project Area.

Stream Name	Basin	King County Stream Type <sup>a</sup>	Buffer Size (Feet)
08.0105 (Bear Creek)	Bear Creek	S	165
08.0115 (Mackey Creek)	Bear Creek	F	165
08.0117A (Mackey Creek tributary)	Bear Creek	F	165
08.0117B (Mackey Creek tributary)	Bear Creek	N	100
08.0134 (Colin Creek)	Bear Creek	F	165
08.0114 (Stensland Creek)	Bear Creek	F	165
08.0114A (Stensland Creek tributary)	Bear Creek	F	165
08.0114B (Stensland Creek tributary)	Bear Creek	F	165
08.0114D (Stensland Creek tributary)	Bear Creek	F	165
08.0114E (Stensland Creek tributary)	Bear Creek	N	100
08.0106 (Evans Creek)	Evans Creek	S	165
08.0107 (Evans Creek tributary)	Evans Creek	F	165
08.0107A (Evans Creek tributary)	Evans Creek	F	165
8.0107B (Evans Creek tributary)	Evans Creek	N	100

<sup>a</sup> As defined in the King County Critical Areas Code.

**Wetlands:** A total of 24 wetlands were delineated that may be affected by the project improvements. These wetlands were classified according to the USFWS classification system and rated using the Washington state wetland rating system developed by the Department of Ecology (WDOE). These include 14 depressional wetlands, eight riverine wetlands, and two slope wetlands. The wetlands are also classified by the hydrogeomorphic (HGM) system which stratifies wetlands into different classes in order to describe their wetland function. King County and the City of Redmond have adopted the WDOE rating system into their Critical Areas Codes. The rating system divides wetlands into four category hierarchy based on the level of function they provide with Category I wetlands providing the highest function. The table below provides the USFWS classification, the HGM class, the wetland category, the rural or urban area, the buffer size and associated stream for each of these wetlands.

## Project Area Wetlands

Wetland Number	USFWS Class <sup>a</sup>	HGM Class <sup>b</sup>	Wetland Category	Urban (U) or Rural (R)	Buffer Size (feet)	Associated Stream
1815	PEM1, PFO1	Riverine	I	U	150	08.0106
1853	PEM1, PSS1, PFO1	Riverine	I	R	150	08.0106
1854	PEM1, PSS1	Depressional	IV	R	50	08.0107
1873	PEM1, PFO1	Riverine	II	R	75	08.0107
1888	PSS1	Riverine	III	R	50	08.0106
1889	PEM1, PSS1	Riverine	II	R	100	08.0106
1890	PEM1	Depressional	IV	R	50	08.0107
1892	PEM1, PFO1	Riverine	I	U	150	08.0106
0244	PFO1, PFO4, PSS1, POW	Depressional	I	U	225	08.0134
0245	PFO1, PSS4, POW	Depressional	I	U	225	08.0134
0248	PFO1, PSS1, PAB4, POW	Depressional	II	R	150	08.0115
0294	PFO4, PSS1	Depressional	III	U	75	NA
02102	PFO4, PSS1, SB3/4	Depressional	II	R	50	NA
02103	PFO4, PSS1	Depressional	III	R	40	NA
02105	PFO1, PAB4	Depressional	IV	R	40	NA
02106	PEM1	Slope	IV	R	40	08.0114E
02107	PEM1, PFO1	Riverine	III	R	60	08.0114E
02108	PEM1	Slope	IV	R	40	08.0114E
02109	PFO4, PSS1	Depressional	II	R	75	NA
02110	PFO4, PFO5, PSS1	Depressional	II	R	75	08.0117A
02111	PFO4, PSS1, SB2	Depressional	I	R	110	08.0117A
02120	PFO4, PEM1	Riverine	IV	R	40	08.0114
02125	PEM1, PFO1, POW	Depressional	IV	R	50	08.0114A
02126	PEM1, PFO1, POW	Depressional	III	R	80	08.0114A

<sup>a</sup> USFWS wetland classes include PAB – palustrine aquatic bed; PEM – palustrine emergent; PFO – palustrine forested; POW – palustrine open water; PSS – palustrine scrub-shrub; SB – streambed *Classification of wetlands and deepwater habitats of the United States* (Cowardin et al. 1979).

<sup>b</sup> HGM class – *A Hydrogeomorphic classification for wetlands* (Brinson 1993).

NA – not applicable

In addition to the wetlands listed in the table above, four wetlands on the proposed mitigation sites will be affected by the project and are analyzed as part of the natural resources mitigation plan. Three other wetlands also exist in the vicinity of the project area, but have not been delineated due to lack of property access. Those wetlands will be delineated and analyzed prior to commencing construction, after property access is granted. For additional information see the discussion on wetlands in the *Natural Resources Conceptual Mitigation Plan*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.



**2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

**Streams:** Streams and associated buffer disturbances will occur during roadway widening, culvert replacement and new culvert installation, replacement of the Evans Creek Bridge, installation of a new bridge over Stensland Creek, and channel relocations. Permanent impacts to nine stream channels would total approximately 2,400 linear feet and impacts to stream buffer would total approximately 6.7 acres (see the Table below). Some of the affected stream channels area in good condition, but approximately 80 percent of these channels are located in roadside ditches providing little or no function. These channels would be relocated to improve function for both instream and riparian habitat. These channel impacts would include the loss of open-channel stream habitat, loss of riparian habitat and function, channel modification, and changes in water quantity entering streams as well as temporary changes in water quality during construction. The replacement bridge over Evans Creek would be wider and would result in a beneficial effect by allowing channel and habitat-forming processes to occur more naturally than under current conditions.

In addition to the permanent impacts noted above, approximately 1.5 acres of regulated stream buffer would be temporarily cleared during construction of the roadway improvements.

The following table provides the stream name and the channel and buffer impacts for each.

**Permanent Stream Impacts Resulting from the Proposed Project**

<b>Stream Name</b>	<b>Channel Impact (linear feet)</b>	<b>Buffer Impact (acres)</b>
Stensland Creek (08.0114)	140	3.8
08.0114A	9	0.25
08.0114E	480	0.39
08.0117A	27	0.28
08.0117B	15	0.13
Evans Creek (08.0106)	58	0.45
08.0107	178	0.45
08.0107A	1,500	0.77
08.0107B	27	0.21
<b>Totals</b>	<b>2,434</b>	<b>6.73</b>

For additional information see the discussion on Alternative 2, the *Water Resources Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

**Wetlands:** Approximately 0.7 acre of wetland area would be permanently affected by the roadway widening. In addition, construction of the project would eliminate approximately 3.3 acres of regulated, vegetated wetland buffer, resulting in diminished buffer functions. Approximately 0.4 acre of wetland area would be temporarily disturbed by construction activities such as site clearing and grubbing. For additional information see the discussion wetland impacts in the *Natural Resources Conceptual Mitigation Plan*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

**Streams:** There will be approximately 1,400 cubic yards of fill and 1,300 cubic yards of dredge material placed in or removed from streams.

**Wetlands:** There will be approximately 3,300 cubic yards of fill and 2,700 cubic yards of dredge material placed in or removed from wetlands.

Suitable gravel borrow from a local supplier will be used for any fill and will be provided by the contractor. The aggregate for gravel borrow shall consist of granular material, either naturally occurring or processed.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose and approximate quantities, if known.**

In-water disturbance would temporarily occur during culvert and bridge replacements as well as during stream-relocation activities. Temporary stream diversions would be used where appropriate to bypass stream flow around construction sites. These diversions would be used to minimize the impacts from in-water work; however, the installation of these systems can create sediment and require fish removal and relocation. All fish removal and relocations will be done using hand-netting or other accepted methods (following WSDOT Fish Exclusion Protocol and Standards, dated 2006).

**5) Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.**

In order to build a new, wider bridge at the Evans Creek crossing with NE Union Hill Road (see Figure 1), some construction work within the floodplain will be required. Modeling done as part of the project shows that the new bridge would not negatively affect floodplain storage. The new bridge over Evans Creek at NE Union Hill Road would allow floodplain processes to occur more naturally than under current conditions. For more information see the discussion on Alternative 2 in the *Water Resources*

*Discipline Report.* To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No waste materials will be discharged to surface waters. Best Management Practices will be implemented following the King County and Department of Ecology stormwater manual guidance.

**b. Ground**

- 1) Will ground water be withdrawn or will water be discharged to ground water? Give general description, purpose and approximate quantities, if known.**

This project does not involve the withdrawal of ground water; however, ground water may be encountered during excavation required to construct the roadway improvements. Any encountered ground water will be removed and discharged to a sediment pond, or into a well-vegetated upland area. This would prevent turbid water from reaching surface water or ground water. The project will not discharge to ground water. For more information see the discussion on Alternative 2 in the *Water Resources Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

- 2) Describe any waste material that will be discharged into the ground from septic tanks or other sources (e. g., domestic sewage, industrial, agricultural, etc.). Describe the general size of the system, the number of such systems, the number of houses to be served, or the number of animals or humans the system(s) are expected to serve.**

This project involves neither the construction nor operation of a septic tank system or any other waste-disposal system or facility. No waste material is discharged into the ground as a result of this project.

**c. Water Runoff (including storm water)**

- 1) Describe the source of runoff (including storm water) and method(s) of collection and disposal, if any (include quantities, if known). Will this runoff water be discharged or flow into surface waters or ground water? If so, describe.**

The majority of stormwater runoff in the project area is not currently collected or treated for water quality. The runoff that is collected is treated in a small number of stormwater facilities that already exist in the project area. It is not feasible to retrofit and resize the existing stormwater treatment facilities for use by this project, with one exception discussed below.

Three stormwater treatment facilities will be constructed as part of the proposed project. Two of the facilities would be newly constructed, and one existing stormwater facility (the Novelty-Colin facility), located on the north side of NE Novelty Hill Road, would be retrofitted. As described in the water resources discipline report, four stormwater facilities were originally proposed for this project, but after developing a more detailed design, it was found that the required results could be achieved with only three facilities. Developing only three facilities decreases the overall area that must be cleared to accommodate stormwater facilities. For more information see the discussion on Alternative 2 in the *Water Resources Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**2) Could waste materials or toxic materials enter ground or surface waters during or as a result of this proposal? If yes, generally describe?**

Yes, there is an unlikely possibility that fuel or concrete spills could occur from construction and operation activity. Spill prevention BMPs will be followed during construction to avoid such spills. The contractor will be required to prepare a Spill Prevention Control and Countermeasures Plan for the project prior to beginning construction and submit it to King County for approval.

**d. Proposed measures to reduce or control surface, ground and runoff water impacts, if any:**

**Construction:** Proposed measures to avoid and minimize impacts to wetlands, streams, and ground water during construction include, but are not limited, to the following:

1. Following BMPs specified in the *Regional Road Maintenance Endangered Species Act Program Guidelines* (King County 2002).
2. Developing and implementing BMPs such as a stormwater pollution prevention plan that will include a temporary erosion and sediment-control plan and a spill-control and countermeasures plan.
3. Replanting all vegetation temporarily disturbed by construction activities with native vegetation within one year or growing season after construction is complete.

**Operation:** Proposed measures to avoid, minimize, and compensate for permanent impacts to wetlands, streams, and ground water during project operation include, but are not limited to the following:

1. Constructing four mitigation sites to compensate for unavoidable impacts to streams, wetlands, and wildlife habitat. These mitigation sites will include a combination of approximately 4.5 acres of wetland mitigation, 3,500 linear feet of stream channel restoration/enhancement, and 8 acres of stream/wetland buffer enhancement.

2. Constructing three stormwater treatment facilities to treat and infiltrate stormwater runoff from new and existing impervious surface. Treating and infiltrating runoff from both the new impervious surface and a portion of the existing impervious surface will prevent an increase in pollutant-loading values during project operation. When stormwater runoff is infiltrated, most pollutants are removed through the infiltration process. This will decrease the chance of surface or groundwater contamination in the project area.
3. Utilizing low-impact development stormwater management techniques throughout the project area. These techniques, such as the use of porous pavement on road shoulders and bioretention swales, will be incorporated where site conditions allow, thus encouraging runoff to infiltrate on site. These techniques would provide several benefits during project operation including minimizing: (1) the loss of groundwater recharge potential, (2) changes in stream and wetland hydrology, and (3) the risk of increased erosion and sedimentation.

#### 4. PLANTS

##### a. Underline types of vegetation found on the site:

☒ **deciduous trees:** [alder, maple, birch, ash, other]  
☒ **conifer trees:** [fir, cedar, pine, other]  
☒ **shrubs:** [blackberry, salmon berry, spirea, other]  
☒ **grasses**  
☒ **pasture**  
☒ **crops:**  
☒ **wet soil plants:** [buttercup, rushes, horsetail, cattail, other]  
☒ **water plants:** [water lily, milfoil, eelgrass, other]  
☐ **other types of vegetation**

The major plant associations found within the project area include forest stands, riparian zones, pasture/grasslands and wetland areas. The dominant tree in the forest stands is Douglas fir and other common overstory species including red alder, bigleaf maple, and western red cedar. Common understory species in the forest stands include salmonberry, salal, Oregon grape, swordfern, vine maple, and a variety of herbaceous ground covers. Dominant species in the riparian zones include western red cedar, red alder, and salmonberry. Dominant species in the wetlands include reed canarygrass, common rush, black cottonwood, Pacific willow, cattail, and skunk cabbage.

##### b. What kind and amount of vegetation will be removed or altered?

Some existing vegetation would be temporarily disturbed or removed during construction. These areas would be replanted with native vegetation during the first growing season after construction is complete. Approximately 6.6 acres of vegetation (e.g., forest, grassland, riparian, shrubs, or wetland) will be temporarily removed during construction of this project.

Permanent impacts on vegetation resources include vegetation removal, and roadside vegetation management measures. Approximately 21 acres of vegetation (e.g., forest, grassland, riparian, shrubs, or wetland) will be permanently removed for this project.

For more information see the discussion on Alternative 2 in the *Wildlife, Fisheries, and Vegetation Discipline Report*. To access this report electronically, please go to the project website located at

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**c. List threatened or endangered species or critical habitat known to be on or near the site:**

Special-status plant species are those identified by local, state, or federal agencies as requiring special attention or that are otherwise specifically regulated. These special-status species include state and federal endangered, threatened, and candidate species and species of concern. According to the *Natural Heritage Features Database* (Washington Department of Natural Resources December 2008), no special-status plant species are known to occur in the project area.

**d. Proposed landscaping, use of native plants or other measures to preserve or enhance vegetation on the site, if any:**

During construction, existing vegetation would be temporarily disturbed or removed. These areas would be replanted with native vegetation during the first growing season after construction is complete. The permanent impacts to vegetation would be compensated for by construction of stream and wetland mitigation on four sites. This mitigation will include 12.5 acres of native planting in the Bear and Evans Creek basins (see Figure 1). In addition, roadside landscape planting along the four-mile project corridor, as well as in the roadway medians, will be installed.

## **5. ANIMALS**

**a. Underline any birds and animals which have been observed on or near the site, or are known to be on or near the site:**

**invertebrates:** [insects, mollusks, other]

**fish:** [salmon, trout, bass, herring, shellfish, chub, other]

**amphibians:** [frogs, salamanders, toads, other]

**reptiles:** [snakes, lizards, turtles, other]

**birds:** [songbirds, owls, hawks, eagles, heron, woodpecker, other]

**mammals:** [raccoon, opossum, beaver, squirrel, black bear, coyote, bobcat, deer, bear, elk, beaver, rabbits, rodents, other]

**b. List any threatened or endangered species or critical habitat known to be on or near the site.**

**Wildlife:** U.S. Fish and Wildlife Service (USFWS) maintains a website that describes species and habitat protected under the federal Endangered Species Act, including those listed and proposed endangered and threatened species and critical habitat, candidate species, and species of concern with known occurrences in King County. The table below lists species that USFWS identifies as potentially found in the area. There is no designated critical habitat for terrestrial wildlife in the project area. Many species on the following list have never been observed in the project area, or would not be expected to be there, based on lack of habitat. The project area lacks the mature conifer forest that would provide breeding habitat for marbled murrelet, or northern spotted owl.

## Special-Status Wildlife Species Potentially Found in the Project Area

Common Name	Scientific Name	Status <sup>a</sup>	Habitat
<b>Birds</b>			
Bald eagle <sup>b</sup>	<i>Haliaeetus leucocephalus</i>	ST, KCC	Nests in large, open-limb trees within one mile of large bodies of water
Great blue heron	<i>Ardea herodias fannini</i>	KCC	Forages in open-water habitats; colonial nester
Marbled murrelet	<i>Brachyramphus marmoratus</i>	FT	Forages in marine waters, nests in old-growth conifer forests.
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT	Forages, breeds, and nests in old-growth conifer forests.
Osprey	<i>Pandion haliaetus</i>	KCC	Forages over open water; nests on platforms, power poles, dead-top trees
Peregrine falcon	<i>Falco peregrinus</i>	FCo, SS, KCC	Nests located on exposed rock cliffs and skyscrapers; may forage over project area
Pileated woodpecker	<i>Dryocopus pileatus</i>	SC	Nests and forages in second-growth and mature forests
Purple martin	<i>Progne subis</i>	SC	Seasonal migrant to project area; breeds in manmade nest boxes
Red-tailed hawk	<i>Buteo jamaicensis</i>	KCC	Hunts over open fields, road shoulders, and utility rights-of-way; builds large stick nests in exposed trees
Vaux's swift	<i>Chaetura vauxi</i>	SC, KCC	Nests in hollow trees and cavities created by woodpeckers in mature forest; forages over open areas and water
<b>Amphibians and Reptiles</b>			
Tailed frog	<i>Ascaphus truei</i>	FCo	Closely associated with cold, clear streams in mature forests
Western toad	<i>Anaxyrus boreas</i>	FCo, SC	Breeds in permanent water wetlands; common in upland forests and fields outside breeding season
<b>Invertebrates</b>			
Beller's ground beetle	<i>Agonum belleri</i>	FCo, SC	Endemic to low-elevation sphagnum bogs; in King County, known only from King's Lake bog
Hatch's click beetle	<i>Eanus hatchii</i>	FCo, SC	Endemic to low-elevation sphagnum bogs
<b>Mammals</b>			
Long-eared myotis	<i>Myotis evotis</i>	FCo	Roosts in caves, buildings, and trees; forages over water and in open areas
Long-legged myotis	<i>Myotis volans</i>	FCo	Usually found along forest edges and among trees; summer day roosts include buildings, crevices in rock cliffs, and under tree bark; maternity colonies have been found in fissures in the ground, in attics, and under tree bark
Pacific Townsend's big-eared bat	<i>Corynorhinus townsendii townsendii</i>	FCo, SC, KCC	Breeding and hibernation colonies can be found in abandoned mines, caves, and buildings

<sup>a</sup> FT = federal threatened; ST = state threatened; FCo = federal species of concern; SC = state candidate; SS = state sensitive; KCC = protected under King County code.

<sup>b</sup> Bald eagle was removed from federally threatened status in July 2007.



**Fish:** Special-status fish species include those listed or proposed for listing under the federal Endangered Species Act by USFWS and NOAA Fisheries. The table below lists the three special-status fish species that potentially occur in the study area; of these, only Chinook salmon and steelhead trout are known to occur in the study area. Critical habitat for Chinook salmon and bull trout have been designated by federal agencies, but none exists within the study area. The nearest critical habitat for both species is located within the Snoqualmie River, east of the study area.

### Listed Fish Species Potentially Present in the Study Area

Common Name	Scientific Name	Federal Status	Habitat
Puget Sound Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Threatened	Chinook salmon use Evans Creek in the project area as migration, spawning, and rearing habitat.
Coastal/Puget Sound bull trout	<i>Salvelinus confluentus</i>	Threatened	Bull trout require streams with cooler water temperatures. The streams in the project area are likely too warm to support bull trout.
Steelhead trout	<i>Oncorhynchus mykiss</i>	Threatened	Steelhead trout may use Evans Creek in the project area as migration habitat.

For more information see the discussion on Alternative 2 in the *Wildlife, Fisheries, and Vegetation Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**c. Is the site part of a migration route? If so, describe.**

**Wildlife:** King County has one formally designated one wildlife habitat network and crosses NE Novelty Hill Road approximately 500 feet west of 234th Place NE. This network is composed of contiguous vegetated corridors intended to link various wildlife habitats and provide for wildlife movement and is protected under the King County critical areas code.

**Fish:** Salmonids use Evans Creek to migrate to habitat upstream in the basin.

**d. Proposed measures to preserve or enhance wildlife, if any.**

Various required and recommended mitigation measures would be implemented to avoid, minimize, or compensate for impacts on wildlife, fish species, and habitat during construction. Additional site-specific mitigation measures for direct impacts during construction are summarized below.

1. Avoiding construction work during critical life history periods for special-status species.

2. Protecting breeding sites of wildlife species identified by the King County code and as described in the *King County Comprehensive Plan* (King County 2008).
3. Minimizing potential impacts to in-stream fish habitat during construction through implementation of temporary erosion and sedimentation-control plan, a spill-prevention control and countermeasures plan, and a stormwater pollution prevention plan.
4. Marking clearing limits prior to construction to preserve and protect vegetation from construction activities and equipment. Restore any temporarily disturbed vegetation within one year or one growing season after construction is complete.
5. Limiting in-water work activities to Washington Department of Fish and Wildlife (WDFW)-specified work periods, and following WDFW protocols for fish handling.
6. Restricting contractor staging areas to outside 300 feet of any jurisdictional wetland, stream or drainage.
7. Refueling operations will be conducted at a minimum distance of 100 feet from open water bodies or ditches and daily inspections for fuel leaks will be conducted for all vehicles and equipment.
8. Sampling water quality throughout the construction to identify and correct any impacts to surface water quality.
9. Replacing vegetation removed during construction with native trees and shrubs.
10. Monitoring restoration and mitigation work during and after construction using performance standards to observe the development of target habitat functions.

To mitigate for permanent impacts to wildlife, King County is proposing to construct a 40-foot-wide bridge where the new road will cross Stensland Creek. A bridge at this location is not required by King County Code, but will provide an opportunity not only for fish passage but also to maintain connectivity for terrestrial wildlife, allowing them to cross underneath the new roadway, rather than at roadway grade.

## **6. ENERGY AND NATURAL RESOURCES**

- a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Fossil fuels will be consumed by vehicles and equipment during construction, and operation with future maintenance activities. Fossil fuels will provide the primary source of energy for vehicles. Electricity will be used for some street lighting; however, solar energy will be used for these where feasible.

- b. Would the project affect the use (potential or actual) of solar energy by adjacent properties? If so, generally describe.**

No.

- c. What kinds of energy conservation features are included in the plans for this proposal? List any other proposed measures to reduce or control energy impacts, if any.**

Energy conservation measures have been designed into the project including the construction of roundabouts at three intersections. These roundabouts will reduce fossil fuel consumption used by vehicles by reducing the amount of time they idle at intersections. In addition, the design will eliminate the need for electricity used by traffic signals.

## **7. ENVIRONMENTAL HEALTH**

- a. Are there any environmental health hazards, including exposure to toxic chemicals or hazardous wastes, risk of explosion or fire that could occur as a result of this proposal? If so, describe.**

The accidental leakage of petroleum products (e.g., gasoline, diesel fuel, hydraulic fluid, anti-freeze, grease, etc.) from construction equipment could occur, but is not likely. These substances can be toxic to nearby aquatic systems, and to humans upon prolonged skin contact, and can pose a fire hazard.

During construction, community health could be affected by dust and vehicle exhaust. Construction activities would intermittently generate particulate matter (dust, PM2.5, and PM10) and odors, and construction equipment would generate diesel engine exhaust. Any air quality impacts associated with construction activities would be most noticeable at sensitive land uses, such as schools or parks, near construction sites. Although these air quality impacts would be short term, occurring only while construction is in progress, they would at times diminish the air quality in the project corridor. Best management practices (BMPs) will be employed to reduce fugitive dust, odors, and exhaust emissions. For additional information see the *Community Health Assessment*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

- 1) Describe special emergency services that might be required.**

The need for special emergency services is not anticipated.

- 2) Proposed measures to reduce or control environmental health hazards, if any:**

The contractor will also be required to submit a Fugitive Dust Control Plan to King County for approval. The plan will provide BMPs that will be used to minimize the amount of particulate matter (i.e., dust) generated during construction.

The contractor will be required to submit a Spill Prevention, Control and Countermeasures Plan to King County for approval. The plan will provide best management practices that will be used during construction to minimize the potential for hazardous spills from fuels and lubricants used on the site. Spill kits will be available on site to be used in the event of a spill. Worker health and safety will be addressed as required by Washington State and federal regulations. Waste material generated from the construction will be properly managed and disposed of at permitted facilities.

**b. Noise**

**1) What types of noise exist in the area which may affect the project (e.g., traffic, heavy equipment, operation, industrial, other)?**

Traffic noise will not affect the project.

**2) What types and levels of noise would be created by, or associated with the project, on a short-term or a long-term basis (e.g., traffic, construction, operation, other)? State what hours noise would come from the site?**

Noise levels in the project area are primarily a result of traffic noise. Traffic noise levels depend on the volume and speed of vehicles, ratio of heavy trucks to other vehicles, topography, vegetation, and distance from the road to the sound receptor. Generally, an increase in volume, speed, or percentage of trucks increases traffic noise levels. Vehicle noise is a combination of noise from the engine, exhaust, and tires.

Within the project area, King County code (KCC 12.88.020) allows maximum noise levels ranging from 52 to 70 A-weighted decibels (db(A)) depending on land use, type, and distance to receptors.

**Construction:** Construction noise from the project would temporarily disturb humans and wildlife that are present in adjacent areas. Between the hours of 10:00 pm and 7:00 am on weekdays and 10:00 pm and 9:00 am on weekends, noise levels must be decreased by 10 db(A) (KCC 12.88.030). However, for certain construction activities King County code (KCC 12.88.040) allows the maximum noise to exceed those levels by 15 – 25 db(A).

**Operation:** The state recognizes two types of long-term traffic noise impacts, absolute and relative. A relative impact occurs when the future predicted noise level is more than 10 db(A) over existing levels. Regardless of the existing noise level, an absolute impact occurs when the noise level reaches the state noise abatement criteria of 66 db(A) for residences. By 2030, traffic noise levels at 14 locations in the project area are predicted to equal or exceed the state noise abatement criterion of 66 db(A).

For additional information see the discussion on Alternative 2 in the *Noise Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

### 3) Proposed measures to reduce or control noise impacts, if any:

**Construction:** During construction, the project may require the use of silencers on engines and quieter equipment or construction practices. Turning off equipment when not in use would also reduce noise levels. Mitigation measures for construction noise associated with the proposed project could include the following:

- Equipment would be fitted with properly sized and maintained mufflers, as required by regulations.
- Operating hours would be scheduled to minimize construction activity during late evening and early morning hours.
- Mufflers on equipment, timing restrictions on work hours, and other BMPs would be implemented to minimize noise levels generated from construction activities.

**Operation:** Noise reduction measures were considered during the design of the project, where possible. However, the use of noise walls in the project area was evaluated and found to be infeasible given the site conditions. Noise walls must be unbroken to function properly and cannot accommodate driveways or intersections. In addition, there would not be enough room in many locations to build a wall without removing the structure the wall was intended to protect.

## 8. LAND AND SHORELINE USE

### a. What is the current use of the site and adjacent properties?

The majority of the project area is designated as existing roadway. The existing NE Novelty Hill Road was legally established as a King County road in 1977. Adjacent land-use patterns within the project area consist of three major elements: (1) the more intensive and diverse urban land uses within the City of Redmond on the western portions of the project area; (2) the lower density and predominantly rural residential land uses throughout most of the central and eastern portions of the project area; and (3) a land-use pattern of the higher-density, self-contained community defined by the UPDs that straddle NE Novelty Hill Road at the eastern end of the project area.

### b. Has the site been used for agriculture? If so, describe.

Historically some portions of the project area, specifically in the valley area surrounding Bear and Evans Creek, were used for agriculture.

### c. Describe any structures on the site.

The majority of the project area is designated as existing road right-of-way. Structures on and adjacent to the site include: commercial and small business, large lot and urban residences, parks and open space, vacant land, and schools.

### d. Will any structures be demolished? If so, what?

It is estimated that temporary construction easements would be required on up to 22 of the existing 157 parcels along the project corridor. Of these 22 parcels, 14 are residential properties; the other six are vacant properties. Within the temporary construction easements, existing driveways, fences, rockeries/walls may be demolished.

It is estimated that the proposed project would require approximately 12 full parcel acquisitions, eight of which contain single-family residences and four of which are vacant. Expansion and realignment of the road right-of-way would require demolishing **eight** homes out of 157 parcels. For additional detail see the discussion on Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

### Potential Full Property Acquisitions for the NE Novelty Hill Road Project.

Parcel No.	Parcel Size (square ft)	Location	Use	Reason for Acquisition
0818400010	32,939	9908 197th Court NE	Single family residential	Roadway Alignment
0625069098	733,986	Between NE Novelty Hill Road and NE 95th Street, east of NE Redmond Road, west of 195th Avenue NE	Vacant	Stormwater Pond
0625069125	192,970	Immediately east of parcel 0625069098 (map no. 3)	Vacant	Roadway Extension
8053500264*	15,000	20604 NE Novelty Hill Road	Single family residential	Roadway Alignment
8053500524	9,800	21053 NE Novelty Hill Road	Single family residential	Roadway Alignment
8053500521	11,122	21065 NE Novelty Hill Road	Single family residential	Roadway Alignment
8682211700	51,760	(Trilogy at Redmond Ridge drainage)	Vacant	Stormwater Pond
0625069117	12,615	9413 195th Avenue NE	Single family residential	Roadway Alignment
720239TRCT	355	South side of NE Novelty Hill Rd across from 224th Avenue NE	Vacant	Roadway Alignment
0625069118	9,750	9425 195th Avenue NE	Single family residential	Roadway Alignment
0625069122	33,900	8503 196th Avenue NE	Single family residential	Stormwater Pond
0625069046	60,113	8335 196th Avenue NE	Single family residential	Stormwater Pond

\* Owned by King County

#### e. What is the current zoning classification of the site?

According to the current King County Zoning Code, roadways are designated as an unclassified use. The project lies within both unincorporated King County and the City of Redmond and each of these jurisdictions have zoning designations that are applicable within parts of the project area. Within the unincorporated King County portion, zoning

designations are Rural Area and Urban Reserve. Within the City of Redmond portion, zoning designation are Industrial and Semi-Rural. Additional details are provided in the discussion on Alternative 2 in the *Land Use Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**f. What is the current comprehensive plan designation of the site?**

The project lies in both the Urban Growth Area and unincorporated rural area of King County. According to the *King County Comprehensive Plan* (2008), the project is located within rural residential (RR) and Urban Planned Development (UPD) areas. See Section "I" below for a discussion on how this project fits into both the urban and rural areas.

In the portion of the project located in the City of Redmond, according to the *City of Redmond Comprehensive Plan* (2006), the project is located in Manufacturing Park (MP) and Park and Open Space (POS). For additional detail see the discussion on Alternative 2 in the *Land Use Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**g. If applicable, what is the current shoreline master program designation of the site?**

Within the project corridor, Evans Creek, where it is crossed by NE Union Hill Road, is under the jurisdiction of the Shoreline Management Act. This location is at the boundary between King County and the City of Redmond, so that the proposed project is subject to the Shoreline Master Programs (SMPs) of both Redmond and King County. Evans Creek is also designated as a Conservancy Environment in both the King County and City of Redmond SMPs. For additional detail see the discussion on Alternative 2 in the *Land Use Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**h. Has any part of the site been classified as an environmentally sensitive area? If so, specify.**

Within the project footprint the following areas classified as environmentally sensitive I are mapped and include: streams, wetlands, flood hazard areas, seismic hazard areas, and aquifer recharge areas. For additional detail see the discussion on Alternative 2 in the *Water Resources Discipline Report*, *Soils and Geology Discipline Report*, and *Wetlands Discipline Report*. To access these reports electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**i. Approximately how many people would reside or work in the completed project?**

None.

**j. Approximately how many people would the completed project displace?**

The inhabitants of eight residences would be permanently displaced.

**k. Proposed measures to avoid or reduce displacement impacts, if any.**

The proposed project has been designed to minimize the number and extent of property acquisitions and relocations needed. Where parcel acquisitions cannot be avoided, compensation would be provided at fair market value, in compliance with the Uniform Relocation and Real Property Policies Act of 1970, as amended, and RCW 8.26. These regulations provide for relocation services for all property owners, without discrimination. Relocation assistance would be available for both residences and business premises. Relocation services would be provided by qualified personnel employed by King County. For additional detail see the discussion on Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

**l. Proposed measures to ensure the project is compatible with existing and projected land uses and plans in the area.**

The King County Comprehensive Plan defines certain road corridors planned for capacity improvements in rural areas as urban connectors. Urban connectors are road corridors designed to support growth in urban areas while minimizing adverse impacts on the character of rural areas.

NE Novelty Hill Road project would be constructed in support of the King County Comprehensive Plan policies and would be one of the first urban connectors to be built by King County. The intent of these policies is to ensure that any transportation improvements within the rural area or natural resource lands are consistent with rural or natural resource character. These policies further intend to restrict roadway capacity increases that might contribute to increased pressure for development in rural areas. The comprehensive plan stipulates that any roadway improvements through the rural area that result in increasing roadway vehicle capacity must be designed to serve the mobility and safety needs of urban areas, such as the urban planned developments and the City of Redmond, without allowing development in the surrounding rural or natural resource lands. The improved NE Novelty Hill Road corridor would function as an urban connector by connecting the urban planned developments and the City of Redmond.



## 9. HOUSING

- a. Approximately how many housing units would the project provide, if any? Indicate whether high, middle or low income housing.**

None - not applicable.

- b. Approximately how many housing units would be eliminated, if any? Indicate whether high, middle or low income housing.**

It is estimated that the proposed project would require approximately 12 full parcel acquisitions, eight of which contain single-family residences with the other four being vacant. Expansion and realignment of the road right-of-way would require demolishing eight single-family homes. For additional detail see the discussion on Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

- c. Proposed measures to reduce or control housing impacts, if any:**

As discussed above, the proposed project has been designed to minimize the number and extent of property acquisitions and relocations needed. Where parcel acquisitions cannot be avoided, compensation would be provided at fair market value, in compliance with the Uniform Relocation and Real Property Policies Act of 1970, as amended, and RCW 8.26. These regulations provide for relocation services for all property owners, without discrimination. Relocation assistance would be available for both residences and business premises.

## 10. AESTHETICS

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The tallest structure associated with the road improvements will be street lights. The tallest light poles will be approximately 35 feet high.

- b. What views in the immediate vicinity would be altered or obstructed?**

In general terms, as a result of the proposed project the improved roadway would become a more prominent feature in the visual landscape. The project would remove vegetation; widen the roadway; add roadway features such as signage, railings, fencing, and lighting; add retaining walls; and add stormwater drainage facilities. Because these would be changes to an existing roadway, impacts on the landscape character would be low. Visual impacts would generally be limited to locations on or immediately adjacent to the roadway, because views of the project from locations away from the roadway would generally remain screened by vegetation and terrain. Although the removal of vegetation

might open new view corridors in some areas, that is expected to be relatively rare as there are only a few instances where this would be the case. Existing vegetation beyond the clearing limits would remain and provide screening; moreover, the terrain interrupts sight lines beyond the corridor. For additional information see the discussion on Alternative 2 in the *Visual Quality Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**c. Proposed measures to reduce or control aesthetic impacts, if any:**

To the extent possible, the proposed project has been designed to blend visually with the landscapes and communities through which it passes. The roadway will feature shoulders rather than sidewalks in rural areas. Stormwater drainage facilities will mimic natural water features. Where possible, runoff would be treated at the road edge and dispersed into soils, reducing the need for additional land clearing to accommodate water quality treatment systems.

## **11. LIGHT AND GLARE**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

Although the proposed project would add lighting at the roundabouts and limited segments of NE Union Hill Road, NE Novelty Hill Road, and 195<sup>th</sup>/196<sup>th</sup> Avenue NE the project corridor would generally remain without lighting. Street lighting is not planned elsewhere in the project area, except at intersections where it may be needed for safety. Light and glare from the new street lights would occur from nightfall to sun-up.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

No. Street lighting will be installed to increase safety within the project corridor.

**c. What existing off-site sources of light or glare may affect your proposal?**

None.

**d. Proposed measures to reduce or control light and glare impacts, if any.**

Consistent with roadway safety requirements, lighting will be fitted with hoods to reduce glare and to direct light onto the roadway and away from adjacent areas and the sky.

## 12. RECREATION

**a. What designated or informal recreational opportunities are in the immediate vicinity?**

Within the project area and vicinity there are a variety of existing parks, trails, and recreational facilities that are owned and operated by various entities, including City of Redmond, King County, Lake Washington School District, private homeowner associations, and nonprofit organizations. In addition to the many existing facilities, some proposed parks and trails will add to the diverse recreational opportunities available in the area.

Bicycle facilities on the roadways range from designated bike lanes to shared traffic lanes on heavy to low traffic roads. For more details see the discussion on Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**b. Would the project displace any existing recreational uses? If so, describe.**

No existing recreation will be completely displaced; however, the following table provides the name, owner and brief description for each recreational resource in the project area and describes the potential impact by the project:

<b>Name/Owner</b>	<b>Description</b>	<b>Potential Impact</b>
Arthur Johnson Park / City of Redmond	15-acre undeveloped open space	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> <li>• Would require a partial property acquisition along northern border.</li> </ul>
Perrigo Community Park / City of Redmond	29-acre active-recreation developed park	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Redmond Watershed Preserve / City of Redmond	800-acre preserve with extensive trail system	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Bear & Evans Creek Trail and Greenway / City of Redmond	9-mile multi-use trail project	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> <li>• Would require a partial property acquisition</li> </ul>
Puget Power Trail / King County	Currently informal; proposed formal	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Novelty Hill Little League Fields / King County	6-acre undeveloped property	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Redmond Ridge Regional Trail System / King County	3.3-mile paved trail & approximately 3.7-mile soft surface trails	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Redmond Ridge Internal Trails / UPD	Miscellaneous trails within Redmond Ridge	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> </ul>
Trilogy Internal Trails / UPD	Miscellaneous trails within Trilogy	<ul style="list-style-type: none"> <li>• Temporary limited access and congestion during construction.</li> </ul>
Enso Center for International Arts / Privately Owned and Operated	Offering various martial arts classes	<ul style="list-style-type: none"> <li>• Temporary limited access and increased traffic congestion during construction.</li> <li>• Would require a small acquisition of the new Enso Center site along 196th Ave NE.</li> </ul>

**c. Proposed measures to reduce or control impacts on recreation including any recreational opportunities to be provided by the project or applicant.**

***Construction:***

1. Planning of construction activities to minimize access disruptions.
2. Coordination with local agencies to create a website providing the public with updated information on potential traffic congestion, delays, and detours located in the vicinity of parks, trails, and other recreational resources.
3. Standard signage along detour routes to guide the traveling public to temporary access points.
4. Trail crossings would have signage, markings, and illumination following King County standards, or approved modifications.

5. At the Redmond Ridge regional trail crossing of NE Novelty Hill Road, user safety would be maintained during replacement of the existing traffic signal through the use of flaggers.

***Operation:***

1. Trail crossings would have improved signage, markings, and illumination following King County standards or approved modifications.
2. At the Redmond Ridge regional trail crossing of NE Novelty Hill Road, user safety would be enhanced by replacement of the existing traffic signal.
3. The relocated portion of the Redmond Ridge regional trail that runs parallel to NE Novelty Hill Road will be designed to separate the trail from the roadway curb. The trail would consist of a 12-foot-wide paved surface and a 5-foot-wide soft surface, except when crossing wetlands, where the paved section would be only ten feet wide and adjacent to the road curbing.
4. The greatest potential impact on users of the Bear & Evans Creek Trail & Greenway would be restrictions on their ability to cross an expanded NE Union Hill Road. As mitigation, King County would ensure that recreational trail users are able to safely cross NE Union Hill Road either under the roadway at the crossing of the Evans Creek Bridge or at the roundabout at 196th Avenue NE and NE Union Hill Road.

### **13. HISTORIC AND CULTURAL PRESERVATION**

- a. **Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

There are seven historic properties identified along the proposed project corridor: the Red Brick Road, five historic buildings, and prehistoric archaeological site 45-KI-834. Of the seven properties, the Red Brick Road is already listed on the National Register of Historic Places and the six others were recommended to meet the criteria of eligibility for listing on the register. These seven historic properties are described below.

- **Sundholm Residence:** Built in 1911 by one of the area's first settlers, Swedish immigrant Olaf Sundholm, this former farmhouse is one of the oldest homes in the Novelty Hill area. This property is significant for its association with Scandinavian immigration, agriculture, and the settlement and development of the area.
- **Stensland Farm:** This farm was listed in the King County Historic Sites survey in 1978 but has not yet been nominated for the state or national registers. This property is significant for its architecture, association with Scandinavian immigration and association with the settlement and development of the area.

▪ **Carl Kling Residence:** This house was constructed in 1913 and is a good example of the Arts and Crafts style in the Redmond area.

▪ **Leroy Olson Chicken House:** The farm complex was constructed in the 1950s and features an octagonal barn, which is a distinctive example of an agricultural outbuilding that has retained its physical integrity.

▪ **Lind Farm:** The remaining buildings consist of a barn and chicken house, constructed in 1945. The gambrel roof barn is recommended eligible as a good example of mid-twentieth century agricultural building construction.

▪ **Red Brick Road:** Listed on the National Register of Historic Places in 1972 and was designated as a King County landmark in 1983. The road is also known as the James Mattson Road, after the early neighbor who petitioned the County to build it. The Red Brick Road was a gravel road built in 1901. The road became part of the Yellowstone Trail in the late 1910s; at the time one of only four major roads crossing the nation. The Yellowstone Trail was the northernmost of these routes, connecting Seattle and Boston via Minneapolis, Chicago, Cleveland, and points in between. The road was subsequently paved with its distinctive red brick in 1913. Locally, the Yellowstone Trail traversed Snoqualmie Pass and crossed the Snoqualmie River and Patterson Creek valleys before turning north up the Evans Creek valley, west to Redmond, and beyond to Puget Sound. A more detailed discussion of historic resources can be found in the *Cultural Resources Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

▪ **45-KI-834:** One new archaeological site (field identifier NHR1) was identified during the survey of the area of potential effect. This site is a buried lithic scatter identified during shovel testing in an undeveloped area along the proposed project corridor. The site has undergone subsequent excavation and boundary delineation. The characteristics of artifacts at the site are consistent with those of the Olcott period, one of the oldest archaeological cultures of the region. Given the potential antiquity of the site, the site was determined to be eligible for listing in the National Register of Historic Places. For additional information see the *Cultural Resources Discipline Report*. To access this report electronically, please go to the project website located at

<http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992>

and click on the "Documents" link in the box on the upper-right-hand side of the page.

**b. Generally describe any landmarks or evidence of historic, archaeological, scientific or cultural artifacts importance known to be on or near the site.**

The Red Brick Road, discussed under 13(a) above is a King County Landmark and National Register-listed property.

Archaeological site 45-KI-834, discussed under 13(a) above has been determined eligible for listing in the National Register of Historic Places.

Five historic buildings, discussed under 13(a) above have been determined eligible for listing in the National Register of Historic Places.

The closest previously known archaeological properties are remnants of two logging railroad grades and two now-destroyed prehistoric archaeological sites located along Bear Creek, west of the proposed project. These sites contained several artifacts, including a leaf-shaped projectile point, small quantities of chipped stone, and fire-modified rock, along with a few historical artifacts of unknown association.

**c. Proposed measures to reduce or control impacts, if any.**

To mitigate for adverse effects on historic properties, including construction and operational impacts, a memorandum of agreement (MOA) has been prepared among King County Road Services Division, King County Historic Preservation Program (KCHPP), FHWA, WSDOT, the Army Corps of Engineers and the Washington State Department of Archaeology and Historic Preservation. This MOA stipulates specific mitigation measures to be followed that address effects on surveyed historic properties listed on or eligible for listing on the National Register of Historic Places or as a King County Landmark. These include the following:

**Red Brick Road:** This project will result in the removal of a portion of the Red Brick Road located at 196<sup>th</sup> Avenue NE between Union Hill Road and 55th Place NE, which is a King County Landmark and is listed in the National Register of Historic Places (NRHP). Mitigation for the adverse effect resulting from this undertaking will include the following:

1. KCRSD shall comply with the stipulations of the King County Landmarks Board Certificate of Appropriateness;
2. KCRSD shall prepare Historic American Engineering Record documentation to the Washington SHPO and to the King County Historic Preservation Program;
3. KCRSD will minimize loss of bricks and salvage all bricks for re-use and repairs;
4. KCRSD will provide an interpretive kiosk and traffic pull-out, utilizing many of the salvaged bricks;
5. KCRSC will provide additional traffic signage; and
6. KCRSD will provide post-construction traffic monitoring to ensure there is no adverse impact to the Red Brick Road from an increase in traffic.

**Mitigation of Adverse Effects to the Sundholm Residence, Lind Farm, and Stensland Farm.** This project will result in an adverse effect to these NRHP-eligible properties by increasing noise and negatively affecting the setting. To address effects on these historic properties, mitigation for Sundholm Residence, Lind Farm, and Stensland Farm will consist of:

1. Produce DAHP Level II Historic American Building Survey Documentation for each property, per standards outlined in the DAHP Mitigation Options and Documentation Standards. Copies of the HABS materials shall be provided to DAHP and KCHPP:

2. Develop a Vegetation Plan, in consultation with DAHP, to replace existing vegetation screening in-kind with property-owner concurrence; and.
3. Dedicate \$25,000 to the KCHPP “Barn Initiative” Fund.

**Mitigation of Archaeological Site NHR1 (45-KI-834).** To address effects to archaeological site NHR1 (45-KI-834), KCRSD will follow the Data Recovery Plan for NHR1 including, but not limited to those measures briefly outlined below:

1. Archaeological excavation
2. Artifact studies
3. Archaeological monitoring during construction

In addition, to address potential effects of the undertaking, KCRDS will comply with the Unanticipated Discovery Plan for Cultural Resources and Human Remains. To complete the survey and inventory information for the undertaking, KCRDS will follow the Plan for Additional Survey and Inventory for Historic Properties and Archaeological Resources.

#### **14. TRANSPORTATION**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**

The principal east-west roadway servicing the Bear Creek Planning Area is NE Novelty Hill Road. This two-lane roadway links the area east of Redmond to the expanding commercial area along NE Union Hill Road, downtown Redmond, and the east end of State Route (SR) 520. Avondale Road NE connects to NE Novelty Hill Road at its western extent within the City of Redmond. Within the project limits 208<sup>th</sup> Avenue NE, Redmond Ridge Drive NE, and Trilogy Parkway NE intersect the NE Novelty Hill Road.

- b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

Transit service in the project area is provided by King County Metro. NE Novelty Hill Road is serviced weekdays only by Route 929, which operates between downtown Redmond and North Bend via Duvall, Carnation, Fall City, and Snoqualmie. The weekday-only route operates three and a half trips westbound and two full trips plus two half-trips eastbound daily. Other routes in the project area run along Avondale Road NE, NE Union Hill Road (west of 178<sup>th</sup> Place NE), or Redmond-Fall City Road. For additional detail see the discussion on Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.



- c. **How many parking spaces would the completed project have? How many would the project eliminate?**

None.

- d. **Will the proposal require any new roads, streets or improvements to existing roads or streets (not including driveways)? If so, generally describe, and indicate whether public or private.**

Yes, see the complete description of the proposal in section A.11 above.

- e. **Will the project use (or be in the immediate vicinity of) water, rail or air transportation? If so, generally describe.**

No.

- f. **How many vehicular trips per day would be generated as a result of the project? Indicate when peak traffic would occur, if known.**

The traffic analysis indicates that the proposed project would shift traffic from neighborhood streets onto the NE Novelty Hill Road corridor that is designed to accommodate the increase. King County prepared forecasts of traffic loading (i.e., total traffic volume during a given time period) in the year 2030 to determine the number of traffic lanes needed. Traffic loading forecasts were developed for both the morning and evening peak-hour commuting periods and for average daily trips. These results indicate that the proposed project would produce a dramatic change in driving patterns, resulting in substantially higher traffic volumes along NE Novelty Hill Road east of 208th Avenue NE. While traffic loading would decrease along the adjacent routes in the project area, the number of vehicles on NE Novelty Hill Road east of 208th Avenue NE would almost double with the proposed project in operation.

The increase in traffic loading forecasted along roadways improved by the proposed project is not an increase due to greater future population, but rather an increase from a change in routing. Because the improved roadways would handle greater volumes of traffic, travel times along the corridor would be reduced. As a result, more traffic would be attracted to the corridor, reducing traffic on neighborhood streets. The following table provides the average daily traffic for the year 2030 for the five major areas in the project limits.

### Average Daily Traffic for Year 2030

Location Where Trips are Predicted	Average Number of Vehicles		
	Proposed Project		
	Morning Peak	Evening Peak	ADT
NE Novelty Hill Road east of 208th Avenue NE	3,710	3,930	42,900
NE Union Hill Road east of 196th Avenue NE	1,510	1,440	12,700
Avondale Road NE south of NE Novelty Hill Road	3,620	4,500	52,300
NE 133rd Street east of Avondale Road NE	1,070	1,400	15,300
SR 202 west of 238th Place NE	3,740	3,880	47,900

ADT = average daily traffic.

#### g. Proposed measures to reduce or control transportation impacts, if any.

This project is a transportation improvements project and will result in a number of beneficial effects to the travelling public after it is in operation. During construction, however, there will be transportation impacts and King County may undertake the following measures to mitigate these impacts:

1. Coordination with local agencies to create a website providing the public with updated information on potential traffic congestion, delays, and detours located in the vicinity of parks, trails, and other recreational resources.
2. Phasing the construction of the Evans Creek Bridge on NE Union Hill Road so as to leave one traffic lane open in each direction during construction.
3. Constructing each of the proposed roundabouts in phases, allowing for one traffic lane to remain open in each direction during construction.
4. Coordinating construction activities, detours, and delays with emergency service providers in the project area, including Redmond Police Department, Redmond Fire Department, and King County Sheriff's Office, Precinct Two.
5. Contacting schools in the area and public transit providers to notify them of detours and construction road closures.
6. Planning construction activities to minimize potential adverse effects on community activities or gatherings.

7. Using flaggers and other traffic-control methods to keep traffic moving and minimize delays.
8. Installing standard signage along detour routes to guide the traveling public.
9. Coordinating construction with utility projects in the vicinity.
10. Implementing detour routes and adjusting construction hours to minimize travel delays and avoid peak-hour disruptions.

## 15. PUBLIC SERVICES

- a. **Would the project result in an increased need for public services (e.g., fire and police protection, health care, schools, other)? If so, generally describe.**

While the project would not result in increased need for public services, it would have short-term temporary impacts to public services. Construction of the proposed project could increase noise and dust and temporarily impact public services including: schools, emergency services, social and religious institutions by causing delays or detours away from the construction zone. Local fire service, emergency medical response, and rescue services may need to develop contingency plans for travel through the project area during construction. Law enforcement services may experience delays in response times and in receiving back-up support. These delays are anticipated to be minimal and temporary. Long-term the project will be a benefit to public services by improving traffic flow and travel times.

- b. **Proposed measures to reduce or control direct impacts on public services, if any.**

To mitigate impacts on public services schools, churches, and social institutions within the project area would be notified of detours and construction road closures. Additionally, King County would closely coordinate road closures and detour routes with fire, law enforcement, and emergency medical services that serve the project area. Access to emergency facilities would be maintained at all times.

## 16. UTILITIES

- a. **Underline utilities currently available at the site: electricity, natural gas, water, telephone, refuse and recycling service, sanitary sewer, septic system, other.**

Electricity transmission and distribution - Puget Sound Energy

Natural gas distribution - Puget Sound Energy

Water - City of Redmond, Union Hill Water Association, City of Seattle

Telephone - Qwest, Verizon, Comcast

Sanitary Sewer - City of Redmond, King County

Refuse and recycling service - Waste Management/Sno-King Incorporated

Other – Level 3 Communications, Broadstripe, 360 Networks

Existing utilities in the project area include electricity, water, wastewater and stormwater collection, natural gas, and telecommunication services. An estimated 95 percent of existing utility infrastructure is located within existing public right-of-way, where the majority of NE Novelty Hill Road project construction and subsequent operation would occur.

**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Puget Sound Energy will be performing a number of improvements to the natural gas and electric systems located within the project limits. These include upgrading electric distribution along 196<sup>th</sup> Avenue NE, installing new distribution lines along the new 196<sup>th</sup> Avenue NE roadway segment, replacing the gas line crossing the Evans Creek Bridge, and excavation and relocation of a 16-inch-high pressure gas main along 195<sup>th</sup>/196<sup>th</sup> Avenue NE to accommodate a new culvert and stream bed enhancement.

All utility relocations may involve a short-term disruption of utility service (typically less than eight hours) during the transition to new or temporary service feeds, as well as traffic lane closures and associated delays. The extent and duration of utility interruptions will be known when the final design and construction plans are developed. A temporary interruption to service could also result from inadvertent damage to utility infrastructure due to an accident or error during construction. For additional detail see the discussion of Alternative 2 in the *Socioeconomic Discipline Report*. To access this report electronically, please go to the project website located at <http://www.metrokc.gov/kcdot/roads/cip/projectdetail.aspx?cipid=100992> and click on the "Documents" link in the box on the upper-right-hand side of the page.

**C. SIGNATURE**

The above answers are true and complete to the best of my knowledge.  
I understand that the lead agency is relying on them to make its decision.

Signature: Wally Archuleta  
Wally Archuleta, Manager, Environmental Unit

Date: 4/27/09

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# NE Novelty Hill Road Project

## Project Vicinity

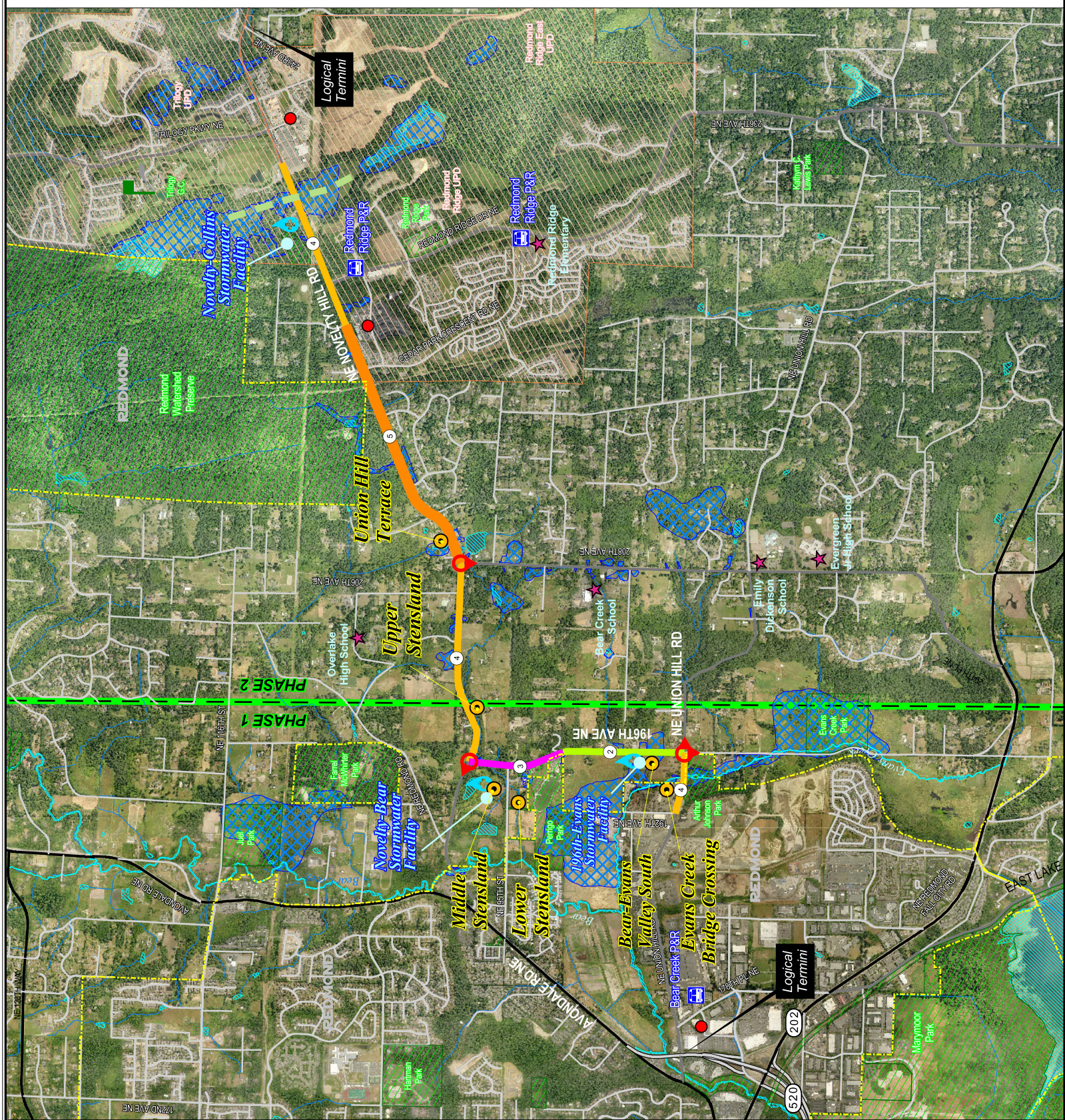
- ② Two Lanes
- ③ Three Lanes
- ④ Four Lanes
- ⑤ Five Lanes
- Roundabout
- Intersection
- Taper
- Stormwater Facilities
- Mitigation Sites
- Shopping Areas
- Schools
- Park and Ride
- Parks
- UPDs
- Wetlands
- Water Areas
- Cities



King County  
April 2009  
0 1000 2000 3000 4000 Feet

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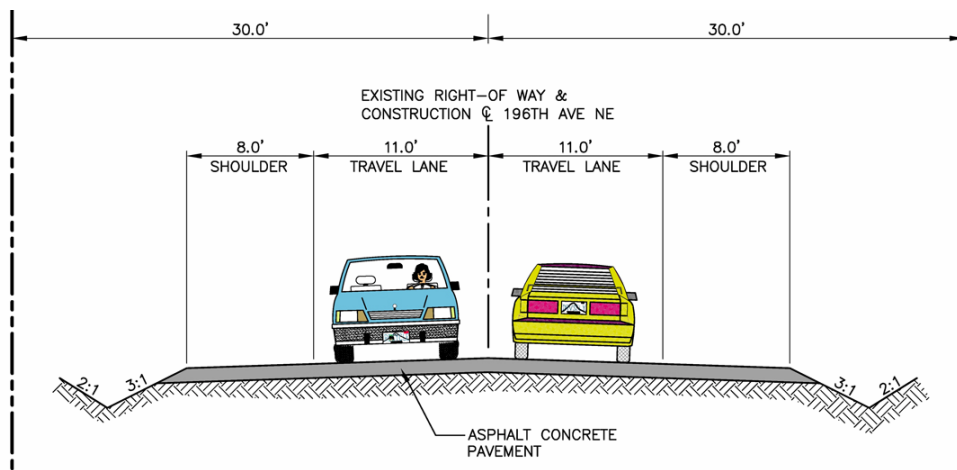
Figure 1



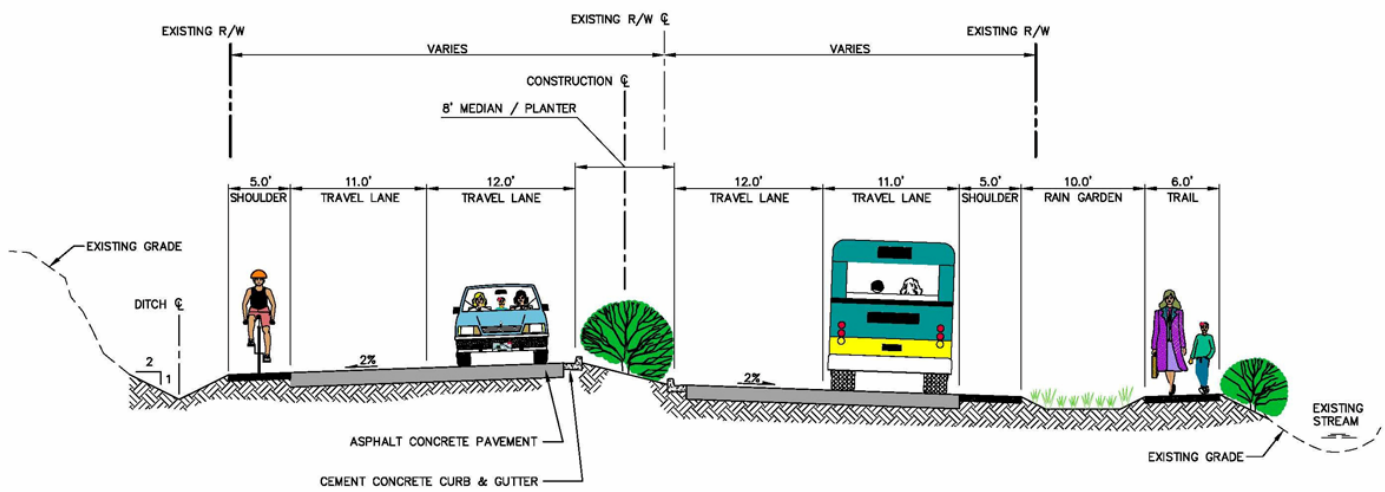


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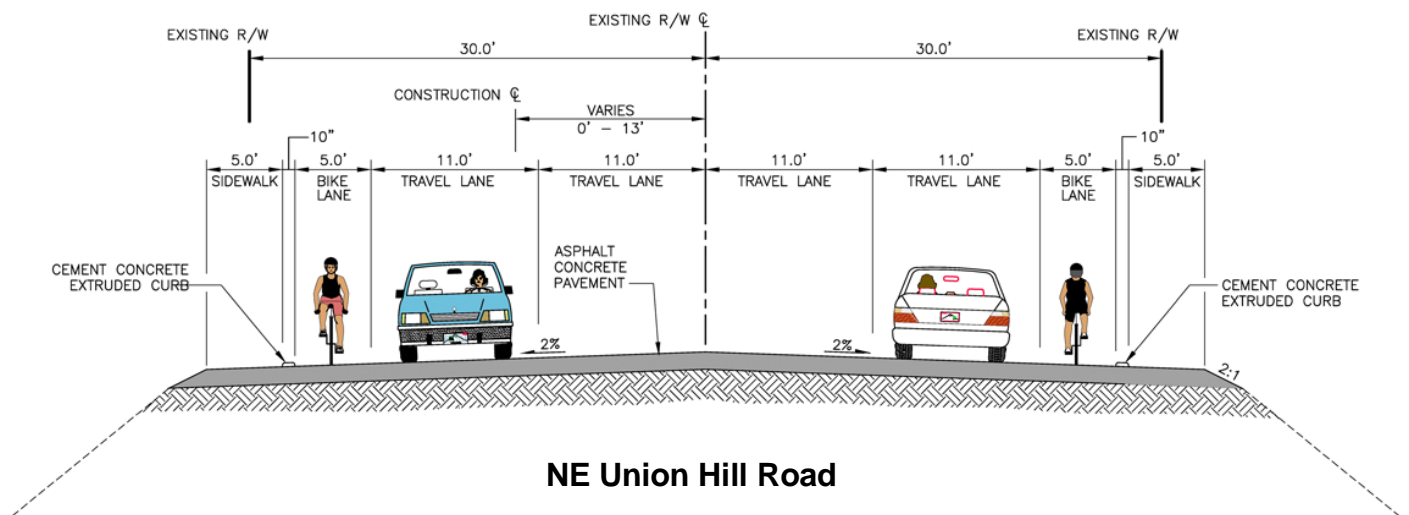




**195th/196th Avenue NE**



**NE Novelty Hill Road**



**NE Union Hill Road**



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